

IDAPA 37.03.09  
Negotiated Rule Making  
March 2, 2007

Negotiated Rule Making commenced on Friday, March 2, 2007 at 8:30 AM MST. This meeting was conducted using the University of Idaho's teleconferencing system, and stakeholders participated from locations in Twin Falls, Idaho Falls, Coeur d'Alene, and Boise. The complete meeting was recorded and is summarized below.

Chuck Galloway, IDWR, opened the meeting.

- IDWR has listened to Well Drillers and IGWA during this process, and is nearing a point of closure.
- The March 2 draft is close to being complete.
- Stakeholders are invited to continue discussion with IDWR on the weekly teleconference held Tuesdays 7:30 – 8:30 AM Mountain Time.
- Stakeholders are encouraged and invited to submit written comments by email.
- The final full meeting is scheduled for March 30. IDWR has listened to all stakeholders, but IDWR did not seek or intend to reach full consensus.

John Sharkey, IDWR, outlined the four main sources for the new draft:

- Revisions were made based on the earlier meetings;
- Rob Whitney, Tom Neace, and John Sharkey met with Stakeholders in the Southern Region (Twin Falls) to receive input.
- After reading the text, gaps were identified and attempts made to make the text more logical and to fix omissions.
- Minor changes were made to remove redundant text.

John Sharkey summarized a number of the recent changes made to the draft including:

- Line 73 regarding annular space was clarified.
- At line 94, the text was revised to reflect the statutory definition of artesian.
- At line 105, the text was revised but the NSF requirement remains.
- At line 231, the definition of neat cement was revised to be consistent with other states.
- A definition of pressure pumping was provided
- At line 265, stable unit was revised and at line 288, competent and incompetent removed.
- At line 296, a revised definition of waste was prepared.
- At line 354, hazardous tanks were removed.
- At line 366, language about Areas of Drilling Concern and Special Geological Conditions was added.
- Beginning at line 430, the table of minimum wall thicknesses is based on NGWA standard .
- At line 446, the text was clarified to accommodate stakeholder concerns about thermoplastic pipe.
- At line 589, methods 1, 2, and 3 for sealing wells in Consolidated formations was modified and further clarified.
- Line 634 adds a new rule 051 to clarify wells penetrating multiple aquifers.
- Line 656 adds language concerning addition of rounded silica sand to dry bentonite or bentonite grout.
- At line 677, Rule 053 Standards for Seal Material Installation was modified.
- Line 707 Grout Seal Materials were further clarified.
- Line 757 is a new rule, Rule 055, regarding resumption of construction following placement of seal material.

- Rules 56, 61, and 62 were modified.
- Beginning at Line 1233, Public Water Supply Wells Rule was added based on IDEQ input.
- Line 1273 added additional responsibilities for the well owner to maintain all wells.

Mike Hart asked for stakeholder comments and reactions:

Brett McCarty indicated that he thought the definition of annular space was confusing and needed to be simplified.

Rob Whitney, IDWR, stated that the current rules suggest two pipe sizes, i.e., 6 in. or 8 in. in a 10-in. borehole. IDWR regulators would prefer to deal with real numbers. The annular space should include all sizes or total diameter.

John Sharkey discussed the text changes in line 83 and 85 and pointed out that different methods of sealing (pour down or pressure pumping) require different annular spaces.

Brett McCarty expressed concern about the permeability requirement of seals of  $10^{-7}$  cm/sec. The working group discussed the permeability issue. IDWR indicated the permeability of the seal material was of  $10^{-7}$  cm/sec is industry standard and is part of the specifications. IDWR wants to hold the suppliers to the industry standard.

Jeff Fereday indicated that the NGWA manual lists permeability from  $10^{-6}$  cm/sec to  $10^{-7}$  cm/sec, and such a number related to industry standards would be appropriate to anchor the proposed rule.

The working group discussed the NSF certification requirement for seal material. Mr. McCarty pointed out that many items used in wells were not NSF approved, i.e., shoes traps, PVC glue and primer, wire, splice kits, etc.

Mr. Sharkey replied that IDWR is concerned that bentonite that is not NSF-approved may

- leach unacceptable compounds, and
- product is not regulated to industry standards.

IDWR indicated that the intent of the rule was to hold the manufacturer of the sealing material to the permeability standard.

Several committee members asked questions about the definition of injection wells with regard to the new regulations. Mr. Roger Buchanan pointed out the definition was prescribed in Idaho Code. He urged the committee to move on to sealing of wells.

The discussion moved on the language concerning sealing of wells. John Sharkey pointed out that line 231 had been revised to address several objections regarding neat cement. Mr. Whitney added that the new text reverted to industry standards, i.e. 6 to 6 ½ gallons of water per 94 pound sack of cement.

Regarding Rule 050, Sealing artesian wells. John Sharkey indicated that there are three ways to seal artesian wells, i.e., full length seals, 10 ft above to confining unit, or 5 ft into the confining unit.

John Sharkey pointed out that line 564 prohibited perforated casing to seal artesian wells based on feedback from drillers in Eastern Idaho with experience concerning casing perforation and pressure grouting.

Roger Buchanan asked IDWR to clarify the language starting at line 551, seals required for artesian aquifers.

Mr. Sharkey drew a diagram of a multiple aquifer system. Earlier text required seals above every confining layer. The new proposed language requires seal only above the producing zone. Regardless, the driller must prevent vertical movement of water between aquifers, and the requirements of all other sealing language must also be met.

Rob Whitney pointed out that the drillers are required to meet the existing rules, which prohibited commingling of aquifers. It is the intent of IDWR for drilling contractors to meet the current Idaho Code and rules. The new rule better describes intent of the statute and current rules.

Jody Denning questioned the definition of artesian and the interpretation in the field regarding artesian conditions. John Sharkey pointed out that the definition in Idaho Code had been enacted over 20 years ago. Mr. Whitney pointed out that artesian is defined for a purpose, i.e., to prohibit waste or exchange of water where there should be no exchange. Dennis Dunn added that rising water level is only half of the definition. Pressure lost is important, too. Loss of pressure means high pumping costs and inability to utilize the resource.

Rob Whitney added there were two issues:

- Waste of water, and
- Waste of pressure.

In a nutshell, these were the issues regarding sealing artesian aquifers.

John Sharkey addressed sub rule 05 and the three methods to seal consolidated formations. Mr. Sharkey drew a diagram and summarized the three methods:

- Full length seal;
- Seal five feet into the first solid layer and
- Seal 10 ft above the first solid layer.

John Sharkey stated that the objective of the three methods is to place seals where they are most effective.

John Sharkey observed that where bedrock is at surface, but fractured below 18 ft, then the surface seal might not be enough. The seal must be installed to the non-fractured solid rock, even below 18 ft.

Members of the drilling community explained that they have drilled wells where they feel the basalt bedrock was hydraulically connected to the upper alluvial aquifer and therefore would not need a seal at the bedrock interface. The wells in the area are completed into the bedrock to avoid pumping the fine sands.

IDWR indicated that they did not fully agree, but agree to work with the Eastern Idaho drillers concerning the geology and hydrogeology in the area consistent with Rule 25 part “g” regarding Areas of Special Geologic Condition (ASGC).

Mr. Sharkey pointed the committee to Sub rule 06, Line 629. There was an exception to the annular requirement if using pressure grout. Mr. Sharkey would edit the text and move the note at line 624 to the table regarding cement sealants.

John Sharkey directed the committee to Rule 051, Multiple Wells at Line 634. IDWR had discussions within the agency and with subgroups of stakeholders. This rule addresses the need for some language to allow penetration of multiple aquifers. This rule requires a waiver from IDWR, rather than simply ban on multiple completions.

Brett McCarty pointed out that in North Idaho, bedrock wells typically penetrate multiple fractures, each of which could be considered an individual aquifer.

Mr. Hart pointed out that Idaho Code prohibited mixing of aquifers.

Mr. Duspiva said that, in Marsing, there were multiple aquifers in the blue clay. He had not tested each aquifer, but they had different quality. Under this rule, IDWR would be faced with a stack of waiver requests.

Mr. Pippett pointed to the language in the second sentence...*to allow for mixing of water*...He stated that politics would allow municipalities to drill wells and screen multiple aquifers, mixing waters of different pressure and quality. Dale objected to allow politics to mix water and potentially degrade the resource. Cities should be required to drill multiple wells rather than multiple aquifer completions.

Mr. Duspiva said that he personally appreciated Mr. Sharkey's effort, but there was too much room for interpretation in the proposed waiver rule.

The Committee adjourned for lunch. Following lunch the discussion continued.

Mr. Lee Baron said he was still concerned about commingling. Some suggested inserting the term *detrimental*, but this was rejected by IDWR as it makes mixing subjective. Mr. McCarty and Mr. Duspiva said that mixing was not detrimental, and the committee discussed this topic at some length.

Mr. Sharkey said that he understood both sides of the issue and waiver language would be removed. General waiver available for every well would remain in the rule.

Chuck Galloway indicated that IDWR and its legal counsel met with IGWA, but IDWR would not support statutory changes in the prohibition against commingling aquifers.

Mr. Sharkey stated that given the opposition, Rule 051 would be removed.

The working group discussed at length the requirements for sealing wells in consolidated formations. John Sharkey explained the three methods to seal in consolidated formations beginning at line 589. Method #1 the seal shall be placed in the solid, unweathered, unfractured rock. Best location for intermediate seal is in solid rock. Method #2 requires seals 5 ft into bedrock, but the other two methods start at that layer and seal material is placed above the solid, unweathered, unfractured rock. Mr. Sharkey then drew three diagrams of seals in consolidated formations.

Mr. Kelly Bond observed that drilling 5 ft into lava is most cost effective using an under reamer.

Mr. Sharkey replied that under reaming is one of the acceptable methods to install this seal.

Mr. Bond asked if he could perforate the casing at this depth and inject grout and then drill deeper.

Sharkey answered that the rule is written for flexibility. Drillers may

- Perforate casing and pressure grout.

- Pull back and pressure grout, or
- Plug using the Halliburton method and drill out plug.

Sharkey emphasized that these three methods could not be used in an artesian well.

Rod Hendricks stated that the issue is the size of the annulus. He believed that IDWR should give some allowance for the annulus to avoid huge costs.

Mr. Sharkey directed Mr. Hendricks and the committee to lines 624 and 750. The size (diameter) of the annulus may be smaller, depending upon the grout installation method.

Mr. Kelly Bond described the situation where gravel overlies lava. Using an under-reamer, the annulus is only  $\frac{3}{4}$  in. He asked if that would be an acceptable annular space when using an under reamer.

Mr. Sharkey responded that he understood the conflict over seal thickness. The minimum should be 2 in., but the less damage to the aquifer the better. Lines 624-627 were not complete, but the table at line 739 comes from the Public Water System rules.

Chuck Galloway stated that IDWR must have adequate seals, perhaps longer or taller, to protect groundwater resources.

Sharkey reaffirmed IDWR's commitment to good seals and indicated that rules must have some constraints on installation method. He indicated that he would work with the stakeholder's issues and look at additional modifications to the language for Tuesday's (3/13/07) teleconference.

Rod Hendricks asked for some consideration of drive shoe seals. It is another popular method and perhaps injecting grout through perforations above the seal would be acceptable.

Brett McCarty stated that the term *target aquifer* should be stricken from the sealing requirement language. He also felt the terms *non weathered* and *non fractured* should be re-written and changed to better describe the rock.

Mr. Sharkey suggested the committee move to other topics. Stakeholders should send their ideas and comments to him via email. Mr. Sharkey re-emphasized that the ban on seal placement using perforated casing only applied to artesian wells.

Regarding placement of cement grout, Roger Buchanan stated that pouring cement was probably acceptable, but care should be taken to minimize air entrainment.

Mr. Sharkey stated that he would find some specifications for pouring cement and add the reference to the rule.

- Line 757, Rule 055, was added to address the period to allow cement to reach its maximum strength. Mr. Sharkey revealed that he was hoping to receive as much input from stakeholders as possible on this topic.

Fred Walker stated that the Halliburton method (the Red Book) presents curing times to achieve compressive strength on concrete. Some concrete reaches 50% of this final strength within 20 minutes. The rules should come up with some duration for waiting.

John Sharkey stated that he would consider percentage of strength or time after installation.

Rule 57, the Requirement to Repair or Replace Damaged Seals, was discussed. Mr. McCarty asked who was responsible for paying, and Mr. Sharkey directed the committee to Line 1259, well owner's responsibility.

Rule 62 requirements for sealing drive point was discussed, and the stakeholders asked about IDWR's authority to regulate structures less than 18 ft deep. By definition, such structures are not wells. Some IGWA members suggested that IGWA might approach the legislature about changing the 18 ft definition of a well.

The group discussed the minimum steel casing specifications being at line 430. The table was based on specifications obtained from NGWA. IDWR indicated that the thickness 0.109 in. and 0.141 in. would revert to 0.250 in the new draft.

Mr. Guy Weech stated that it was not possible to get pipe in 0.313 in. thickness.

Mr. Galloway stated that he had contacted NGWA and NGWA did not report any problems obtaining 0.313 in. thick pipe.

Mr. Weech stated that the standard should retain 0.250 in. thickness for all pipe up to 16-in. OD and pipe installed to 800 ft. This thickness (0.250 in.) is appropriate for private wells and has been used for 40 years. He did not see any advantages to thicker casing. It would not prevent waste and could not be perforated. 0.313 in. pipe was simply not available.

Mr. Sharkey asked stakeholders to comment upon and mark up the table and to email their comments to him.

- Line 462 regarding Standard Dimension Ratio-17 (SDR-17) was discussed.

Mr. McCarty stated that no SDR-17 pipe in the nominal 4 in. size was available. SDR-17 pipe was available in 4.50 in. and the bells would be almost 6 in. OD, making this pipe unusable with Mr. McCarty's drilling equipment. He suggested specifying Schedule 40 for 4 in. pipe.

Mr. Sharkey concurred, stating that 4 in. casing would be Schedule 40, but all other thermoplastic pipe would be SDR-17.

Line 739, Rule 54, Regarding Seal Placement, Depth and Annular Space, was discussed next

Stakeholders expressed confusions regarding the column titles, i.e., *saturated* and *unsaturated*.

Mr. Hendricks stated that drillers in Island Park typically poured dry bentonite to 100 ft in a 1 ½ in. annulus. The bentonite was tagged as it was poured down the annulus. Of course, more bentonite was stored on site than the calculations required.

Mr. Dunn added that the amount of bentonite required to fill the annulus was more than the calculated volume in many instances due to the presence of voids and fractures.

Mr. Buchanan added that drillers typically pour granules to 100 ft in a 1½ in. dry annulus, almost identical to the installation of chips. Mr. Buchanan asked about the prohibition on bentonite in the unsaturated space.

John Sharkey answered that, based on the Nebraska study, no grout could be installed above the water table. Sharkey stated that grout should be used only if the bentonite bridged during placement. This was the only way that the driller could fix bridging problems with bentonite chips or granules to ensure a thick, continuous seal without voids.

Stakeholders questioned the Rule 094 at Line 1006. Some stakeholders believe that cleaning and disinfection prior to installation is unneeded.

John Sharkey stated that he would change the rules to require only in-place disinfection.

Bob Gestrin questioned the separation distances starting at line 353. He stated that the State Plumbing Bureau recommended different separation distances if the pressurized sewer pipe used was Schedule 40 and was pressure tested.

Mr. Hart commenced to wrap up the meeting at 4:15 PM. He stated:

- Stakeholders should see final draft before IDWR submits the draft to the Water Board. As an act of good faith with stakeholders, it is time for IDWR to make its final recommendations regarding the proposed revision to IDAPA 37.03.09.
- Open items need to be closed prior to the last meeting. Stakeholders should email their comments to IDWR staff in a timely manner so this can be done prior to the next meeting.
- IDWR is rapidly approaching the deadline for producing its recommended revision to the Well Construction Standard.

Chuck Galloway added that IDWR must satisfy itself that the proposed rule protects the resource.

Rod Hendricks asked if there was time to hold another state-wide video conference to discuss the proposed revision. The Department agreed that the March 30 meeting would be a full day state-wide teleconference discussion on modifications to the draft followed by a half day wrap up in April.

John Sharkey asked the stakeholders to provide feedback on how close are we to a final acceptable product.

Fred Walker indicated that the proposed revision was relatively good, but he wanted additional modifications on the disinfection language and procedures.

Mr. McCarty stated that issues remain unresolved, but the teleconferences could help, and the additional meeting would help.

Mr. Galloway added there would be a public comment period and four public hearings, one in each region, after the Water Board meeting.

Mr. Hart closed the meeting stating there was a lot of optimism, but still some ground to plow. The meeting adjourned at 4:30 PM.

***Next meeting and schedule.***

The Committee is scheduled to meet on March 30, 2007, using the University of Idaho video conferencing facilities.